

IN THE CLAIMS:

Claims 1-4 are pending in the application. Please amend claims 1 and 4, and add new claims 5-12 as follows:

1. (Currently Amended) A biochemical reaction detection apparatus, comprising;
a first membrane;
a plurality of islands provided on one side of said first membrane; and
probe cells for immobilizing probes for detecting biochemical reactions, each of
said probe cells being provided on a side opposite to said one side of said first membrane
corresponding to one of the islands though a cross section of the first membrane,
wherein said islands are spaced from each other with intervals filled with air a
~~heat insulating material~~, and each of the islands includes a temperature controller for
heating and temperature-controlling a corresponding one of said probe cells
independently.
2. (Original) The biochemical reaction detection apparatus according to claim 1, wherein
the interval between each of said islands is 50 μm or longer.
3. (Original) The biochemical reaction detection apparatus according to claim 1, wherein
the interval between each of said islands is 100 μm or longer.
4. (Previously Presented) The biochemical reaction detection apparatus according to claim
1, wherein said first membrane has a heat conductivity of 10 w/mk (watt/(meter*kelvin))
or less.
5. (New) A biochemical reaction detection apparatus, comprising;
a first membrane;
a plurality of islands provided on one side of said first membrane; and
probe cells for immobilizing probes for detecting biochemical reactions, each of said
probe cells being provided on a side opposite to said one side of said first membrane
corresponding to one of the islands through a cross section of the first membrane,

wherein said islands are spaced from each other with intervals, and each of the islands includes a temperature controller for heating and temperature-controlling a corresponding one of said probe cells independently.

6. (New) The biochemical reaction detection apparatus according to claim 5, wherein the interval between each of said islands is 50 μm or longer.

7. (New) The biochemical reaction detection apparatus according to claim 5, wherein the interval between each of said islands is 100 μm or longer.

8. (New) The biochemical reaction detection apparatus according to claim 5, wherein said first membrane has a heat conductivity of 10 w/mk(watt/(meter*kelvin)) or less.

9. (New) The biochemical reaction detection apparatus according to claim 5, wherein said first membrane is made of a material or a composite material selected from a group consisting of silicon nitride, silicon oxide, aluminum oxide and Ta_2O_5 .

10. (New) The biochemical reaction detection apparatus according to claim 5, wherein said first membrane is 500 μm thick or thinner.

11. (New) The biochemical reaction detection apparatus according to claim 5, wherein said first membrane is 20 μm thick or thinner.

12. (New) The biochemical reaction detection apparatus according to claim 5, wherein said first membrane is 5 μm thick or thinner.